

CLAIMS

1. A manufacturing method of a liquid crystal display panel, comprising:
a sealant arranging step of arranging a sealant on a main surface of one of or
5 each of two substrates to be bonded to each other;

a liquid crystal dropping step of dropping liquid crystal on one of said two
substrates; and

a bonding step of bonding said two substrates to each other, wherein said
method further includes:

10 to be performed prior to said sealant arranging step, a deaerating step of
arranging in a pressure-reduced atmosphere at least a substrate on which said sealant is
to be arranged out of said two substrates; and

to be performed prior to said bonding step, a releasing step of releasing said
pressure-reduced atmosphere by an inert gas.

15 2. The manufacturing method of a liquid crystal display panel according to
claim 1, wherein

said releasing step is performed prior to said sealant arranging step.

20 3. The manufacturing method of a liquid crystal display panel according to
claim 2, wherein

said sealant arranging step is performed within 30 minutes after said releasing
step.

25 4. The manufacturing method of a liquid crystal display panel according to
claim 1, wherein

said deaerating step includes a step of arranging said two substrates together in
said pressure-reduced atmosphere.

5. The manufacturing method of a liquid crystal display panel according to claim 4, wherein

5 said releasing step is performed after said sealant arranging step and said liquid crystal dropping step.

6. The manufacturing method of a liquid crystal display panel according to claim 1, wherein

10 said releasing step is performed prior to said liquid crystal dropping step, and said liquid crystal dropping step is performed within 30 minutes after said releasing step.

7. A manufacturing method of a liquid crystal display panel, comprising:
a sealant arranging step of arranging a sealant on a main surface of one of or
15 each of two substrates to be bonded to each other;

a liquid crystal dropping step of dropping liquid crystal on one of said two substrates; and

a bonding step of bonding said two substrates to each other, wherein said method further includes:

20 to be performed prior to said liquid crystal dropping step, a deaerating step of arranging in a pressure-reduced atmosphere at least a substrate on which said liquid crystal is to be dropped out of said two substrates; and

to be performed prior to said bonding step, a releasing step of releasing said pressure-reduced atmosphere by an inert gas.

25

8. The manufacturing method of a liquid crystal display panel according to claim 7, wherein

said releasing step is performed prior to said liquid crystal dropping step, and

said liquid crystal dropping step is performed within 30 minutes after said releasing step.

5 9. The manufacturing method of a liquid crystal display panel according to claim 7, wherein

said deaerating step includes a step of arranging said two substrates together in said pressure-reduced atmosphere.

10 10. A manufacturing apparatus used in a manufacturing method of a liquid crystal display panel, the method including:

a sealant arranging step of arranging a sealant on a main surface of one of or each of two substrates to be bonded to each other;

a liquid crystal dropping step of dropping liquid crystal on one of said two substrates; and

15 a bonding step of bonding said two substrates to each other, wherein said apparatus comprises:

pressure-reduced atmosphere creating means for arranging the substrates in a pressure-reduced atmosphere; and

20 releasing means for releasing said pressure-reduced atmosphere by an inert gas.

11. The manufacturing apparatus of a liquid crystal display panel according to claim 10, wherein

said pressure-reduced atmosphere creating means includes
a vacuum chamber,

25 a substrate arranging member for arranging the substrates in said chamber, and
a vacuum pump for evacuating said vacuum chamber, and wherein

said releasing means includes

inert gas introducing means for introducing an inert gas into said vacuum

chamber.

12. The manufacturing apparatus of a liquid crystal display panel according to claim 11, wherein

5 said vacuum chamber is formed so that the two substrates to be bonded to each other can be accommodated.